



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/733,556	12/11/2003	Michael J. Aarnio	EH-10966 (03-436)	8761
34704 7590 02/12/2007 BACHMAN & LAPOINTE, P.C. 900 CHAPEL STREET SUITE 1201 NEW HAVEN, CT 06510			EXAMINER NDUBIZU, CHUKA CLEMENT	
			ART UNIT	PAPER NUMBER
			3749	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		02/12/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	Application No. 10/733,556	Applicant(s) AARNIO ET AL.	
	Examiner Chuka C. Ndubizu	Art Unit 3749	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on Through 5/20/2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>052005, 032904, 121103</u> .                                  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-4, 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Hunter 5,494,004. Hunter teaches the invention as claimed (see figs. 1-12), an apparatus for cleaning a surface within a vessel, the apparatus supported at least partially above a support surface and comprising, an elongate combustion conduit 21, 31 extending from an upstream end 103 to a downstream end 35 associated with an aperture 81 in a wall of the vessel 83 and positioned to direct a shock wave toward said surface (column 6 line 47, 48); a guide member 157, 155 on the support surface 161; and a plurality of support assemblies 157, 155, 153 supporting the combustion conduit at a plurality of locations along a length of the combustion conduit and engaging the at least one guide member (see fig 1); (claim 2) wherein the at least one guide member comprises at least one track 157; and each support has at least one wheel 155 engaging the at least one track (fig 1); (claim 3) wherein the at least one track comprises first and second spaced-apart rails (157 on both sides in Fig 5); and each support assembly comprises at least one pair of said at least one wheel being first and second spaced-apart wheels (155 on both sides in Fig. 5); (claim 4) wherein each support assembly comprises a trolley 131 having first and second of the at least one pair of said at least one wheel

Art Unit: 3749

(see figs. 1 and 5); (claim 6) the apparatus further comprising, a fuel 261 and oxidizer 253A source coupled to the combustion conduit to deliver a charge to the conduit; and an igniter 235 positioned to ignite the charge to cause a deflagration-to-detonation transition for generating the shock wave (column 6 57-59 and column 4 line 51-57); the apparatus further comprising a plurality of separable segments 21, 31.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
2. Claims 5, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hunter. Hunter teaches the invention as claimed and as discussed above.

However, Hunter does not teach an apparatus for cleaning a surface wherein the combustion conduit comprises a plurality of separable segments; and each of the segments is supported atop a single associated one of the plurality of trolleys; wherein

Art Unit: 3749

plurality of apparatus are positioned at a given level of the vessel and oriented parallel to each other.

Having a plurality of segments and each segment supported atop a single associated one of the plurality of trolleys is an obvious variation over Hunter. Hunter teaches a segment supported atop a single associated one of the plurality of trolleys in fig 1. Having more than one segment supported on the trolley is a mere duplication of parts, which will not produce any new and unexpected result. Similarly, having a plurality of cleaning apparatus at a given level of the vessel oriented parallel to each other is an obvious variation over Hunter. Hunter teaches a single cleaning apparatus at a given level of the vessel 83 (fig 1). Therefore this is a mere duplication of part, which will not produce any new and unexpected result. These limitations are given no patentable weight. *In re Harza*, 274 F.2d 699, 124 USPQ 378 (CCPA 1960).

3. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hunter in view of Heering 5,950,572. Hunter teaches the invention as claimed and as discussed above except for the apparatus comprising a resilient member coupling the combustion conduit to the wall.

Heering teaches in a soot blower device, a spring member coupling the combustion conduit to the wall (column 3 line 25-27).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Hunters apparatus by including a spring in order to provide an

Art Unit: 3749

apparatus that ensures gas tightness and motion along with protection against high temperatures as taught by Heering (column 2 line 1-4).

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claim 1 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 10/733,544 in view of Hunter. Claim 1 of Application 10/733544 recites (in addition to other limitations) "means for movably supporting the combustion conduit at one or more locations along a length of the combustion conduit". However, claim 1 of Application 10/733, 544 does not disclose "a guide member on the support surface; and a plurality of support assemblies supporting the combustion conduit at a plurality of locations

Art Unit: 3749

along a length of the combustion conduit and engaging the at least one guide member". Hunter teaches (in addition to the same limitations) "a guide member on the support surface; and a plurality of support assemblies supporting the combustion conduit at a plurality of locations along a length of the combustion conduit and engaging the at least one guide member".

It would have been obvious to one of ordinary skill in the art at the time of the invention to conclude that "a guide member on the support surface; and a plurality of support assemblies supporting the combustion conduit at a plurality of locations along a length of the combustion conduit and engaging the at least one guide member" is a "means for movably supporting the combustion conduit at one or more locations along a length of the combustion conduit" in order to position the conduit and commence cleaning the heat exchanger tubes in the furnace.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### ***Conclusion***

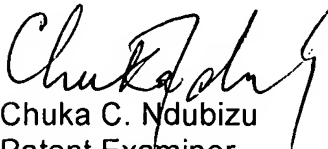
The prior art made of record in the attached USPTO 892 and not relied upon is considered pertinent to applicant's disclosure.

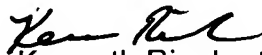
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuka C. Ndubizu whose telephone number is 571-272-6531. The examiner can normally be reached on Monday - Friday 8.30 - 4.30.

Art Unit: 3749

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Rinehart can be reached on 571-272-4881. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Chuka C. Ndubizu  
Patent Examiner  
Au 3749

  
Kenneth Rinehart  
Acting SPE  
AU 3749

20070207